

**METHODS AND SYSTEMS FOR RAISING A NUMERICAL VALUE TO A
FRACTIONAL POWER**

ABSTRACT OF THE DISCLOSURE

A method of calculating $x^{M/N}$, x having a range and M and N integers. The
5 range of x is partitioned into a selected number of intervals and a determination
is made as to the interval into which x falls. x is normalized with a normalization
factor calculated for the interval into which x falls to obtain a normalized value x'
within a normalized range. A value of $x'^{M/N}$ is calculated over the normalized
10 range and a value for $x^{M/N}$ is calculated by multiplying the calculated value of $x'^{M/N}$ by a renormalization factor calculated for the interval in which x falls.

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